

REMARKS

The Applicant thanks the Examiner for the careful examination of this application and respectfully requests the entry of the amendments indicated hereinabove.

Claims 1 - 19 are pending and rejected. Claim 14 is cancelled. Claims 6 and 10 are amended hereinabove.

Claim 1 positively recites a physical connection of semiconductor material which provides thermal conduction between respective bodies of a pair of transistors but does not carry current during the normal operation of the circuit stage. These advantageously claimed features are not taught or suggested by the patents granted to Flaker et al., Houston et al., or Barrett, Jr. et al., either alone or in combination.

The Applicant respectfully traverses the indication in the Office Action (page 4) that Flaker et al. teaches thermal conduction. The Applicant submits that Flaker et al. merely teaches equilibration of the body charge differentials due to thermal effects (column 4 lines 60-67); which is entirely different than equalizing the thermal effects (i.e. is less efficiently equalized in Flaker's partial trench scheme than in a scheme that does not constrict the conductive silicon height).

In addition, the Applicant respectfully traverses the indication in the Office Action (page 4) that Flaker et al. teaches a physical connection that does not carry current during the normal operation of the circuit. The Applicant submits that Flaker et al.'s intrinsic silicon bridge (despite a high resistance) will still conduct electricity (though it may indeed be a poor conductor compared to highly doped silicon). Flaker et al. even states that an electrically conductive bridge is formed (column 5 lines 1 and 4).

Houston et al. does not teach a physical connection that provides thermal conduction between respective bodies of transistors as advantageously claimed. Rather, Houston et al. teaches electrical conduction between two transistors (column 9 lines 35-42; column 17 lines 20-37).

Similarly, Barrett, Jr. et al. does not teach a physical connection that provides thermal conduction between respective bodies of transistors as advantageously claimed. Rather, Barrett, Jr. et al. teaches electrical conduction between two transistors (column 5 lines 4-34).

Therefore, the Applicant respectfully traverses the Examiner's rejection of Claim 1 and respectfully asserts that Claim 1 is patentable over Flaker et al., Houston et al., and Barrett, Jr. et al., either alone or in combination. Furthermore, Claims 2 – 5 are allowable for depending on allowable independent Claim 1 and, in combination, including limitations not taught or described in the references of record.

Amended Claim 6 positively recites a physical connection of metallic material which provides thermal conduction between respective bodies of a pair of transistors. These advantageously claimed features are not taught or suggested by the patents granted to Flaker et al. or Houston et al., either alone or in combination.

The Applicant respectfully traverses the indication in the Office Action (page 5) that Flaker et al. teaches thermal conduction. The Applicant submits that Flaker et al. merely teaches equilibration of the body charge differentials due to thermal effects (column 4 lines 60-67); which is entirely different than equalizing the thermal effects (i.e. is less efficiently equalized in Flaker's partial trench scheme than in a scheme that does not constrict the conductive silicon height).

In addition, the Applicant traverses the indication in the Office Action (page 5) that Flaker et al. teaches a physical connection of metallic material that provides thermal conduction between transistors. The Applicant submits that Flaker et al.'s metal link provides electrical conduction (column 7 lines 1-4), not thermal conduction as advantageously claimed.

Houston et al. does not teach a physical connection that provides thermal conduction between respective bodies of transistors as advantageously claimed. Rather, Houston et al. teaches electrical conduction between two transistors (column 9 lines 35-42; column 17 lines 20-37).

Therefore, the Applicant respectfully traverses the Examiner's rejection of Claim 6 and respectfully asserts that Claim 6 is patentable over Flaker et al. and Houston et al., either alone or in combination. Furthermore, Claims 7 – 9 are allowable for depending on allowable independent Claim 6 and, in combination, including limitations not taught or described in the references of record.

Amended Claim 10 positively recites that transistor bodies are thermally coupled by a connection of non-insulating material. These advantageously claimed features are not taught or suggested by the patent granted to Houston et al.

Houston et al. does not teach a physical connection that provides thermal conduction between respective bodies of transistors as advantageously claimed. Rather, Houston et al. teaches electrical conduction between two transistors (column 9 lines 35-42; column 17 lines 20-37).

Therefore, the Applicant respectfully traverses the Examiner's rejection of Claim 10 and respectfully asserts that Claim 10 is patentable over Houston et al. Furthermore, Claims 11 – 13 and 15 are allowable for depending on allowable independent Claim 10 and, in combination, including limitations not taught or described in the references of record.

Claim 16 positively recites a physical connection of material which provides thermal conduction between respective bodies of a pair of transistors. These advantageously claimed features are not taught or suggested by the patent granted to Flaker et al.

The Applicant respectfully traverses the indication in the Office Action (page 5) that Flaker et al. teaches thermal conduction. The Applicant submits that Flaker et al. merely teaches equilibration of the body charge differentials due to thermal effects (column 4 lines 60-67); which is entirely different than equalizing the thermal effects (i.e. is less efficiently equalized in Flaker's partial trench scheme than in a scheme that does not constrict the conductive silicon height).

The Applicant notes that if Flaker et al. had been discussing thermal connectivity then he would not have formed a more thermally resistive silicon link – which is what is being done by the addition of the extra process step that he is using to get the so called 'partial trench'.

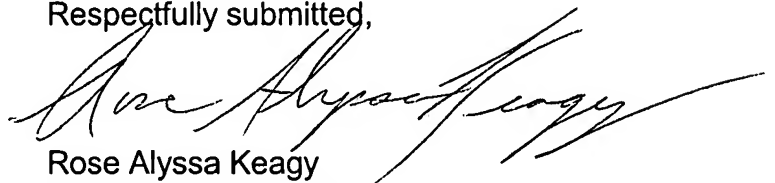
The Applicant respectfully traverses the indication in the Office Action (page 6) that Flaker et al. teaches a physical connection that does not carry current during normal operation of the circuit. The Applicant submits that Flaker et al.'s intrinsic silicon bridge (despite a high resistance) will still conduct electricity (though it may indeed be a poor conductor compared to highly doped silicon). Flaker et al. even states that an electrically conductive bridge is formed (column 5 lines 1 and 4).

Therefore, the Applicant respectfully traverses the Examiner's rejection of Claim 16 and respectfully asserts that Claim 16 is patentable over Flaker et al. Furthermore, Claims 17 – 19 are allowable for depending on allowable

independent Claim 16 and, in combination, including limitations not taught or described in the references of record.

For the reasons stated above, this application is believed to be in condition for allowance. Reexamination and reconsideration is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rose Alyssa Keagy", written in a cursive style.

Rose Alyssa Keagy
Attorney for Applicant
Reg. No. 35,095

Texas Instruments Incorporated
PO BOX 655474, M/S 3999
Dallas, TX 75265
972/917-4167
FAX - 972/917-4409/4418